CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Holcim Inc./Jim Croff – Geyser Gypsum Mine (LUL 485-13)
Proposed Implementation Date:	Fall 2013
Proponent:	Holcim (US) Inc., 4070 Trident Road Three Forks, MT 59752 Ph: 748-5100
Location:	N2NE4, Section 10 – T16N-R10E (Common School Trust)
County:	Judith Basin

I. TYPE AND PURPOSE OF ACTION

The proponent has applied to the DNRC for a Land Use License in order to conduct exploratory drilling for coal (9 core holes) to depths of up to approximately 25-100', to seal the core holes with bentonite, and to complete mapping, and surveying. Drilling will take an estimated 1 days/hole location. Some core material will be placed back down the core hole and the remaining material will be removed from the area. Motorized vehicles required for drilling operations would be allowed to access the drilling sites off of the existing roads provided the most direct route is utilized. Three vehicles would be necessary at each drill site: a pick-up truck, a water tender, and a rubber-track drilling vehicle. Motorized vehicles required for additional work, such as mapping and surveying, would be restricted to existing roads. The State land involved includes Section 10-T16N-R10E, (Common School Trust) in Judith Basin County.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

MMB Petroleum Engineer, Trevor Taylor, and Geologist, Teresa Kinley, conducted a field review in May 2013. Scoping was performed by contacting Lessees, the Montana Natural Heritage Program, and Patrick Rennie, Montana DNRC Archaeologist.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

An Exploration License is required by the Montana DEQ's Hard Rock Section.

3. ALTERNATIVES CONSIDERED:

No Action Alternative: The proposed Land Use License would not be granted. Current non-motorized recreational use and grazing leasing would continue.

Action Alternative: A Land Use License would be granted to Holcim, Inc. to conduct exploratory drilling for gypsum, sealing the core holes, mapping, and surveying on State land in Section 10-T16N-R10E. Current non-motorized recreational use and grazing leasing would continue.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:
Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

The proposed project area geology consists entirely of the Heath Formation outcrop composed of light and dark grey limestone beds and a light grey gypsum bed. The overlying soils at and near the proposed mine location include stony and clay loams sloped in a north-northeast dip direction. Motorized vehicle use would occur on existing roads and cross country by the most direct route between an existing road and the proposed drill sites. Motorized vehicles would be limited to the existing roads for the mapping and surveying and only foot travel would be utilized to access areas off of the existing roads. All motorized vehicle use would occur only during dry or frozen soil conditions. All 9 proposed drill sites are located on elevated, gradual sloping topography. Soils at this location would experience severe erosion if disturbed and have low resistance to compaction; however, with exception of the gypsum outcrop, have a moderate to high resilience enabling good restoration potential.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

An intermittent stream is located over ¼ mile down-gradient from the proposed drill locations on this section. The intermittent drainage flows directly into Lone Tree Creek which is located over a mile west of the nearest core hole. All core holes will be sealed with bentonite to prevent any potential ground water contamination. No significant impacts are anticipated.

6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

A short duration increase in pollutants and particulates would occur from machinery during proposed drilling activities. Minimal impacts to air quality are expected during the exploration drilling as the native soils indicated a moderate resistance to fugitive dust becoming suspended in the air.

7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Some vegetative disturbance is expected. Each of the 9 proposed core holes are located off of existing roads or two-track trails. A rubber track core drilling machine (Track Mounted Core Drill Mobile B-61) is proposed to be used in order to minimize surface disturbance. The estimated ground disturbance resulting from drilling the 9 sites would amount to a little over 1/2 of an acre of affected vegetation that would be exposed to three rubber-tired vehicles for ingress and egress to the drill sites. Motorized

vehicles would be limited to the existing roads for the mapping, and surveying and foot travel only to access areas off of the existing roads. All motorized vehicle use during drilling activities would occur only during dry or frozen soil conditions. Mitigation of any impacts on vegetation are as follows: The proponent will repair any soil damage and seed any disturbed areas with native grass seed, the composition of the mix shall be approved by the Northeastern Land Office prior to application. Proponent will monitor sites and control weeds for a three-year period after drilling.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A variety of big game, small mammals, raptors, and songbirds use this area. Proposed project activities could temporarily disrupt wildlife movement and patterns. Due to the limited area (approximately 1/2 of an acre) exposed to proposed project activities off of existing roads, most nesting and calving activities should not be affected; minimal impacts are anticipated.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

A search was conducted using the Montana Natural Heritage Program database to identify point observations of species of concern within one mile of the proposed activities and no results were found.

Golden Eagles are known to exist approximately 2.5 miles to the east of Section 10-T16N-R10E. Due to the short-term, temporary nature (1 day for each of the 9 locations) and the minimal amount of vegetative disturbance that would occur as a result of the proposed project, no significant impacts are anticipated.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

There is no record of historical and archaeological sites existing near the sites of the proposed core holes. DNRC Archaeologist, Patrick Rennie, was consulted regarding this site and determined from historic records regarding this tract of land, that there should be no disturbance to historical and archaeological sites.

11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

The proposed drill locations in 16N-10E-10 are located off major highways and roads and are not easily visible. Due to the short term nature of the activity at each site, minimal impacts are expected.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

None.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

None.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

None.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

No impacts are anticipated.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

None.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

None.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services.

None.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

No known zoning or management plans for this area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Legal access does not exist to the proposed drill hole locations; although, the Croff family has granted access into the locations through their ranch. No wilderness areas exist on or near any of the drill sites; although, recreational activities are possible due to State lands being accessible for recreationists and hunters traveling by foot. Given the short-term nature and the little amount of disturbance anticipated by the proposed activities, minimal impacts on recreational activities are anticipated.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

None.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

None.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

None.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:
Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The proposed action has provided $25 for Land Use License application fees and would provide one-time rental fee revenue of $900 ($100/hole) to the Trust. The existing grazing leases in the Sections listed above would continue to provide $800 annual revenue to the Trust (Average of historic rates).

EA Checklist Prepared By:	**Name:**	Trevor E. Taylor	**Date:**	August 1st, 2013
	Title:	MMB Petroleum Engineer		

V. FINDING

25. ALTERNATIVE SELECTED:

After reviewing the Environmental Assessment, I have selected the Action Alternative, to issue a Land Use License. I believe this alternative can be implemented in a manner that is consistent with the long-term sustainable natural resource management of the area and generate revenue for the common school trust.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

I conclude all identified potential impacts will be mitigated by utilizing the stipulations listed below and no significant impacts will occur as a result of implementing the selected alternative.

Stipulations:

1. Proponent will repair any soil damage and seed any disturbed areas with native grass seed as per Northeastern Land Office specifications.
2. Proponent will monitor sites and control weeds for a three-year period after drilling.
3. All necessary permits will be secured.
4. All vehicle traffic must stay on established roads except when using most direct route to drill sites and will be limited to time periods/conditions when use of the road will not create ruts, i.e. periods when the soil moisture content is below 20 percent.
5. All vehicles must be washed, particularly the undercarriage, to assure removal of dirt and plant material and seeds prior to entering the tract.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐	EIS	☐	More Detailed EA	**X**	No Further Analysis

EA Checklist Approved By:	**Name:**	Monte Mason
	Title:	MMB Bureau Chief
Signature: /s/ Monte Mason		**Date**: 8/01/13